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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/764,549	01/27/2004	David Reginold Carver		9609

7590 06/30/2005
David R. Carver
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EXAMINER

MONBLEAU, DAVIENNE N

ART UNIT PAPER NUMBER

2878

DATE MAILED: 06/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary	Application No. 10/764,549	Applicant(s) CARVER ET AL.	
	Examiner Davienne Monbleau	Art Unit 2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 January 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 13B. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

Regarding Claim 1, the grammar needs to be corrected.

Claim 13 line 1: insert -- the -- before "light".

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 4-9, 14, 15, and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 4 recites the limitation "the cross-sectional distance" in line 4. There is insufficient antecedent basis for this limitation in the claim.

Claim 4 recites the limitation "the light entrance" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim.

Claim 5 recites the limitation "the excitation light pipe" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim.

Claim 6 recites the limitation "the emission light pipe" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim.

Claim 7 recites the limitation "the sample" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 8 recites the limitation "the sample" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 9 recites the limitation "the sample" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 14 recites the limitation "the emission light pipe" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim.

Claim 15 recites the limitation "the emission optical fiber" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim.

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Claim 17 recites the limitation "only one optical path is a light pipe" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 2, 5, 6, and 9-17, to the extent taught and understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Garner (U.S. 5,104,218).

Regarding Claim 1, *Garner* teaches in Figures 1 and 2 a method for detecting and measuring photoluminescence comprising a light source for excitation (14), a sample holder cell (10) with integral light pipes (36, 38) and an emission photosensor (16). *Garner* does not teach the specific dimensions of the light pipes (36, 38). It would have been obvious, however, to one of ordinary skill in the art at the time of the invention to use particular dimensions in *Garner* to

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provide certain incident characteristics such as confining the excitation light to a specific light spot or maintaining a certain intensity.

Regarding Claim 2, *Garner* teaches in column 4 lines 15-18 that said light source (14) emits light from 180 nm to 1050 nm.

Regarding Claim 5, *Garner* teaches in Figure 1 a lens (60) focusing the light source (14) onto the excitation light pipe (36).

Regarding Claim 6, *Garner* teaches in Figure 1 a lens (62) focusing the light emitted from the emission light pipe (38) onto a photosensor (16).

Regarding Claim 9, *Garner* teaches in column 2 lines 25-30 that the sample is being examined in a liquid state.

Regarding Claim 10, *Garner* does not teach the specific dimensions of the light pipes (36, 38). It would have been obvious, however, to one of ordinary skill in the art at the time of the invention to use particular dimensions in *Garner* to provide certain incident characteristics such as confining the excitation light to a specific light spot or maintaining a certain intensity.

Regarding Claim 11, *Garner* teaches in column 3 lines 44-47 that the sample cell holder (10) may be comprised of a material which absorbs the wavelengths being used for either excitation or emission.

Regarding Claim 12, *Garner* does not teach that said light source is an LED. It would have been obvious to one of ordinary skill in the art at the time of the invention to use an LED in *Garner* because it is a suitable source of visible IR light. (See *Garner* column 4 lines 15-18).

Regarding Claim 13, *Garner* teaches in Figure 1 an optical wavelength filter (18) between the light source (14) and the sample holder (10).

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Regarding Claim 14, *Garner* teaches in Figure 1 an optical wavelength filter (20) between the emission light pipe (38) and the photosensor (16).

Regarding Claim 15, *Garner* teaches in the abstract that the emission light is the input of a spectrometer.

Regarding Claim 16, *Garner* teaches that the light source (14) has a monochromator (18).

Regarding Claim 17, *Garner* teaches in Figure 1 that only one optical path is a light pipe.

Claims 3 and 4, to the extent taught and understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Garner in view of Kurihara et al. (U.S. 2002/0155619).

Regarding Claim 3, *Garner* teaches in Figure 1 light pipes (36, 38), but does not teach that they comprise a fiber optic material. *Kurihara* teaches in Figure 2 a method for detecting photoluminescence for a liquid sample comprising fiber optic light pipes (6a). It would have been obvious to one of ordinary skill in the art at the time of the invention to use fiber optic materials in *Garner*, as taught by *Kurihara*, to efficiently couple the excitation/emission light to and from the sample holder.

Regarding Claim 4, *Garner* does not teach the specific dimensions of the light pipes (36, 38). It would have been obvious, however, to one of ordinary skill in the art at the time of the invention to use particular dimensions in *Garner* to provide certain incident characteristics such as confining the excitation light to a specific light spot or maintaining a certain intensity.

Claims 7 and 8, to the extent taught and understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Garner in view of Hansen (U.S. 2004/0061070).

Regarding Claim 7, *Garner* teaches in Figure 1 that a liquid sample may be examined but does not teach a solid material. *Hansen* teaches in paragraphs [0171] to [0172] a method for

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detecting photoluminescence wherein the sample is either a liquid or solid material. It would have been obvious, however, to one of ordinary skill in the art at the time of the invention to examine other physical forms of samples in *Garner*, as taught by *Hansen*, to determine the emission characteristics of a larger variety of materials/substances.

Regarding Claim 8, *Garner* in view of *Hansen* teaches that either liquid or solid materials may be sampled, but does not teach a gas sample. It would have been obvious, however, to one of ordinary skill in the art at the time of the invention to use gas samples in *Garner* to determine the emission characteristics of a larger variety of materials/substances that may be gaseous form.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure because they teach various devices for measuring the photoluminescence emitted from a sample comprising light pipes and sample holders.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Davienne Monbleau whose telephone number is 571-272-1945. The examiner can normally be reached on Mon-Fri 9:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Porta can be reached on 571-272-2444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

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may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Danielle Monbleau

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